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4 January 2017

Don Goodrich
U.S. EPA, Region 8
1595 Wynkoop St
Denver, CO 80202

RE: Bonita Peak DV ESAT A-129
TDD 0004/1612-04

Dear Mr. Goodrich:

Please find attached the data validation report for Sample Delivery Groups C160913, C161022, and C161023 for the Bonita Peak site. This report has been prepared by START chemists in accordance with TDD 1612-04.

If you have any questions or require additional information, please contact me by phone at 303-729-6124 or by email at natalie.quiet@westonsolutions.com.

Very truly yours,

WESTON SOLUTIONS, INC.

Natalie Quiet
Project Manager

Enclosures: Data Validation Report

DCN: W0434.4B.01210

DATA VALIDATION REPORT

Bonita Peak DV ESAT A-129

SAMPLE DELIVERY GROUP: C160913

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Bonita Peak DV ESAT A-129
Contract Task Order:	20408.012.004.0434.00
Sample Delivery Group:	C160913
Weston Project Manager:	Natalie Quiet
EPA Project Manager:	Don Goodrich
TDD No.:	0004/1612-04
Case No.:	ESAT TDF A-129
Matrix:	Water
QC Level:	Stage 4
No. of Samples:	3
No. of Reanalyses/Dilutions:	0
Laboratory:	ESAT

Table 1. Sample Identification

Location ID	*Sample No.*	*Lab Sample Name*	*Matrix Type*	*Collection Date*	*Method*
A12	A8M5-2172	C160913-02	Water	9/28/2016 9:30:00 AM	300.0
CC02D	A8M5-2172	C160913-01	Water	9/27/2016 10:58:00 AM	300.0
M12C	A8M5-2172	C160913-03	Water	9/29/2016 8:40:00 AM	300.0

It should be noted that the reviewer used laboratory sample names to identify specific sample fractions in this report.

II. Sample Management

Anomalies with sample management are noted below. The samples were received within the temperature limits of >0°C to <6°C. According to the Sample Receipt Form (SRF) the samples were received intact and properly preserved. The chains of custody (COC) were signed and dated by field and/or laboratory personnel.

- According to the SRF, custody seals were absent for samples C161913-02 and C161913-03.

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential positive bias.
J-	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential negative bias.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.

Qualifier	Organics	Inorganics
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995 or calibration was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
L1	LCS/LCSD RPD was outside control limits.	LCS/LCSD RPD was outside control limits.
Q	MS/MSD recovery was poor.	MS recovery was poor.
Q1	MS/MSD RPD was outside control limits.	MS/MSD RPD was outside control limits.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tune was not compliant.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
F1	Field duplicate results were outside the control limit.	Field duplicate results were outside the control limit.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualifier	Organics	Inorganics
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. METHOD 300.0 -Anions

Reviewed By: M. Hilchey
Date Reviewed: December 28, 2016

The samples listed in Table 1 for this analysis were validated based on the guidelines outlined in the *Quality Assurance Project Plan for U. S. EPA Region 8 CERCLA Site Assessment* (Rev. 2015); *United States Environmental Protection Agency Methods 300.0;* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

- Holding Times: The analytical holding times, as listed below, were met.
    - Sulfate, fluoride and chloride (300.0) – 28 days
    - Nitrate as N and nitrite as N (300.0) – 48 hours
- Calibration: Method initial calibration requirements were met. Initial (ICV) and continuing calibration (CCV) frequency requirements were met. ICV and CCV recoveries were within 90-110%.
- Blanks: No target analytes were reported in the method blanks or calibration blanks.
- Laboratory Control Samples (LCS): The LCS recoveries were within the laboratory control limits for all target analytes.
- Laboratory Duplicates: Laboratory duplicate analysis was performed on sample C161913-01. All RPDs met the laboratory control limit of ≤20% for sample results <5x RL.
- Matrix Spike/Matrix Spike Duplicate: Matrix spike analysis was performed on sample C161913-01. Recoveries for all target analytes met laboratory control limits.
- Sample Result Verification: Sample results were verified for all samples reviewed at validation Stage 4. Nondetects are valid to the RL.

  Several samples were diluted for anions analysis. Detected results for dilutions were flagged with "D" by the laboratory. Reporting limits were appropriately adjusted.
- Field QC Samples: MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site sample. Findings associated with field QC samples are summarized below.
    - Field Blanks and Equipment Rinsates: No field blanks or equipment blank samples were identified for this SDG.
    - Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms C160913

Analysis Method WC - Anions by Ion Chroma

Lab Sample Name: C160913-01 **Sample No:** A8M5-2172 **Sample Date:** 9/27/2016 10:58:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	<3.2	3.2	1.6	mg/L	U	U	
Fluoride	16984-48-8	6.2	0.8	0.4	mg/L	D		
Nitrate as N	NA	<0.4	0.4	0.2	mg/L	U	U	
Nitrite as N	NA	<0.4	0.4	0.2	mg/L	U	U	
Sulfate as SO4	148-08-798	745	8.0	4.0	mg/L	D		

Lab Sample Name: C160913-02 **Sample No:** A8M5-2172 **Sample Date:** 9/28/2016 9:30:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	<1.6	1.6	0.8	mg/L	U	U	
Fluoride	16984-48-8	1.3	0.4	0.2	mg/L	D		
Nitrate as N	NA	<0.2	0.2	0.1	mg/L	U	U	
Nitrite as N	NA	<0.2	0.2	0.1	mg/L	U	U	
Sulfate as SO4	148-08-798	384	4.0	2.0	mg/L	D		

Lab Sample Name: C160913-03 **Sample No:** A8M5-2172 **Sample Date:** 9/29/2016 8:40:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Chloride	16887-00-6	<1.6	1.6	0.8	mg/L	U	U	
Fluoride	16984-48-8	1.0	0.4	0.2	mg/L	D		
Nitrate as N	NA	<0.2	0.2	0.1	mg/L	U	U	
Nitrite as N	NA	<0.2	0.2	0.1	mg/L	U	U	
Sulfate as SO4	148-08-798	392	4.0	2.0	mg/L	D		

DATA VALIDATION REPORT

Bonita Peak DV ESAT A-129

SAMPLE DELIVERY GROUP: C161022

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Bonita Peak DV ESAT A-129
Contract Task Order:	20408.012.004.0434.00
Sample Delivery Group:	C161022
Weston Project Manager:	Natalie Quiet
EPA Project Manager:	Don Goodrich
TDD No.:	0004/1612-04
Case No.:	ESAT TDF A-129
Matrix:	Solid
QC Level:	Stage 4
No. of Samples:	23
No. of Reanalyses/Dilutions:	0
Laboratory:	ESAT

Table 1. Sample Identification

Location ID	*Sample No.*	*Lab Sample Name*	*Matrix Type*	*Collection Date*	*Method*
A05	A8M5-2565	C161022-01	Solid	10/7/2016 1:00:00 PM	200.7, 200.8, 245.1
A07	A8M5-2566	C161022-02	Solid	10/7/2016 11:00:00 AM	200.7, 200.8, 245.1
A34	A8M5-2564	C161022-03	Solid	10/6/2016 10:00:00 AM	200.7, 200.8, 245.1
A37	A8M5-2563	C161022-04	Solid	10/6/2016 1:00:00 PM	200.7, 200.8, 245.1
A43	A8M5-2561	C161022-05	Solid	10/4/2016 3:00:00 PM	200.7, 200.8, 245.1
A45	A8M5-2559	C161022-06	Solid	10/4/2016 10:00:00 AM	200.7, 200.8, 245.1
A48	A8M5-2560	C161022-07	Solid	10/4/2016 1:00:00 PM	200.7, 200.8, 245.1
A56	A8M5-2558	C161022-08	Solid	10/3/2016 12:00:00 PM	200.7, 200.8, 245.1
An Rv-abv Eureka	A8M5-2569	C161022-09	Solid	10/11/2016 2:00:00 PM	200.7, 200.8, 245.1
An RV-Abv Minnie	A8M5-2570	C161022-10	Solid	10/11/2016 10:30:00 AM	200.7, 200.8, 245.1
Hermosa Cr	A8M5-2557	C161022-11	Solid	9/30/2016 10:00:00 AM	200.7, 200.8, 245.1
M08	A8M5-2578	C161022-12	Solid	10/17/2016 1:00:00 PM	200.7, 200.8, 245.1
M10a	A8M5-2577	C161022-13	Solid	10/17/2016 10:30:00 AM	200.7, 200.8, 245.1
M14B	A8M5-2576	C161022-14	Solid	10/14/2016 2:00:00 PM	200.7, 200.8, 245.1
M27	A8M5-2574	C161022-15	Solid	10/13/2016 12:30:00 PM	200.7, 200.8, 245.1
M28	A8M5-2573	C161022-16	Solid	10/13/2016 10:00:00 AM	200.7, 200.8, 245.1
M30	A8M5-2571	C161022-17	Solid	10/12/2016 3:00:00 PM	200.7, 200.8, 245.1
M34	A8M5-2572	C161022-18	Solid	10/12/2016 10:30:00 AM	200.7, 200.8, 245.1
Mineral-Abv Browns Gulch	A8M5-2579	C161022-19	Solid	10/17/2016 3:30:00 PM	200.7, 200.8, 245.1
Picayne Gulch	A8M5-2562	C161022-20	Solid	10/5/2016 11:00:00 AM	200.7, 200.8, 245.1

Placer Gulch	A8M5-2568	C161022-21	Solid	10/10/2016 1:00:00 PM	200.7, 200.8, 245.1
SF Animas River	A8M5-2567	C161022-22	Solid	10/8/2016 12:00:00 PM	200.7, 200.8, 245.1
SF Mineral-Below CG	A8M5-2575	C161022-23	Solid	10/13/2016 3:00:00 PM	200.7, 200.8, 245.1

It should be noted that the reviewer used laboratory sample names to identify specific sample fractions in this report.

II. Sample Management

Anomalies with sample management are noted below. The samples were received within the temperature limits of >0°C to <6°C. According to the Sample Receipt Form (SRF) the samples were received intact and properly preserved. The chains of custody (COC) were signed and dated by field and/or laboratory personnel.

The following issue was noted:

- Custody seals were absent.
- Requested analyses were not listed on the COC; however, the Technical Direction From (TDR) included requested analyses for this matrix (tissue).

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential positive bias.
J-	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential negative bias.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.

Qualifier	Organics	Inorganics
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995 or calibration was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
L1	LCS/LCSD RPD was outside control limits.	LCS/LCSD RPD was outside control limits.
Q	MS/MSD recovery was poor.	MS recovery was poor.
Q1	MS/MSD RPD was outside control limits.	MS/MSD RPD was outside control limits.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tune was not compliant.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
F1	Field duplicate results were outside the control limit.	Field duplicate results were outside the control limit.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualifier	Organics	Inorganics
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. Methods 200.7, 200.8, and 245.1—Metals and Mercury

Reviewed By: M. Hilchey
Date Reviewed: December 29, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *Quality Assurance Project Plan for U. S. EPA Region 8 CERCLA Site Assessment* (Rev. 2015); *United States Environmental Protection Agency Method 200.7, 200.8 and 245.1;* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

- Holding Times: The analytical holding times, 28 days for mercury and six months for the remaining metals, were met with the following exceptions. All samples except 161022-12, C161022-13 and 161022-19 were analyzed past the required holding time but within 2x the requirement for mercury. All results for mercury for those samples were qualified as estimated with low potential bias (UJ for nondetects, J- for detects).
- Instrument tune: All ICPMS tuning requirements were met.
- Calibration:
  - Initial calibration: Initial instrument calibrations met method acceptance requirements.
  - Initial (ICV) and continuing calibration (CCV) verification: The ICV and CCV frequency requirements were met. ICV and CCV recoveries were within 90-110%. The reporting limit check standards met laboratory recovery limits.
- Method Blanks: No target analytes were detected in the method blanks or calibration blanks.
- Interference Check Samples (ICSA/B): Recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. For all site samples, the concentrations of more than half of the interferents were less than half of the concentrations of interferents in the ICSA; therefore, the samples were not assessed for matrix interference.
- Laboratory Control Samples (LCS): The LCS recoveries were within the laboratory control limits for all target analytes with the exception of strontium (13%) in both ICP preparation batches. Strontium results for all samples were qualified as estimated with low potential bias (R for nondetects, J- for detects).
- Laboratory Duplicates: Laboratory duplicate analyses were performed on samples C161022-11 and C161022-22 for all analyses. All RPDs met the laboratory control limit of ≤20% for sample results <5x RL with the exceptions noted in the table below. Associated results for all samples of similar matrix except those which had passing duplicate results, and except those that were rejected due to other QC failure, were qualified as estimated with unknown bias (J for detects, UJ for nondetects).

Target analyte	Laboratory Duplicate RPD	Qualified samples
arsenic	26%	All samples except C161022-11
aluminum	24%	All samples except C161022-22
calcium	21%	
magnesium	25%	
zinc	33%	
strontium	44%	

- Matrix Spike: Matrix spike analyses were performed on samples C161022-11, C161022-12 and C161022-22 for Methods 200.7 and 200.8. Recoveries were not assessed when the parent sample concentrations were more than 4× the spike amount. Recoveries for all target analytes met laboratory control limits of 70-130% except as noted in the table below. Associated nondetected strontium results which were not previously rejected due to other QC failures were rejected (R). Detected results associated with high MS recoveries were qualified as estimated with high potential bias (J+).

Target analyte	Matrix Spike recovery	Qualified samples
aluminum	171%	All samples except C161022-12 and C161022-22
strontium	0.6%	
iron	170%	All samples except C161022-11 and C161022-22
silica	393%/142%	All samples except C161022-12

- Post Digestion Spike: Post digestion spike analyses were not performed.
- Serial Dilution: Serial dilution analysis was performed on samples C161022-11 and C161022-22 for Methods 200.7 and 200.8. Results were not assessed unless the parent sample concentration was >50× the MDL. The control limit of ≤10% difference of the original sample results was met for all target analytes.
- Internal Standards: All site sample ICPMS internal standard (IS) intensities were within 60-125% of the response in the calibration blank for reported target analytes.
- Sample Result Verification: Sample results were verified for all samples reviewed at validation Stage 4. Detects below the reporting limit were qualified as estimated (J). Nondetects are valid to the RL.

  All samples were diluted 5x for 200.7 and 200.8 analyses. Detected results for dilutions were flagged with "D" by the laboratory. Reporting limits were adjusted accordingly.

  The laboratory flagged the mercury result for sample C161022-11 as diluted; however, review of the raw data indicates that the sample was not diluted for Method 245.1.
- Field QC Samples: MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the

remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below.

- Field Blanks and Equipment Blanks: No field blanks or equipment blank samples were identified for this SDG.
- Field Duplicates: There were no field duplicate samples identified for this SDG.

Validated Sample Result Forms C161022

Analysis Method ICPMS Tot. Rec. Metals

Lab Sample Name: C161022-01 **Sample No:** A8M5-2565 **Sample Date:** 10/7/2016 1:00:00 PM

Location A05 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	68.0	126	62.8	ug/kg dry	JD	J	
Arsenic	7440-38-2	2070	251	62.8	ug/kg dry	D	J	E
Cadmium	7440-43-9	1520	25.1	12.6	ug/kg dry	D		
Chromium	7440-47-3	673	251	126	ug/kg dry	D		
Copper	7440-50-8	5460	126	62.8	ug/kg dry	D		
Lead	7439-92-1	5970	25.1	12.6	ug/kg dry	D		
Nickel	7440-02-0	274	126	62.8	ug/kg dry	D		
Selenium	7782-49-2	422	251	126	ug/kg dry	D		
Silver	7440-22-4	94.5	126	62.8	ug/kg dry	JD	J	
Thallium	7440-28-0	164	251	126	ug/kg dry	JD	J	
Uranium	7440-61-1	45.5	25.1	12.6	ug/kg dry	D		

Lab Sample Name: C161022-02 **Sample No:** A8M5-2566 **Sample Date:** 10/7/2016 11:00:00 AM

Location A07 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<597	597	298	ug/kg dry	U	U	
Arsenic	7440-38-2	1120	1190	298	ug/kg dry	JD	J	E
Cadmium	7440-43-9	307	119	59.7	ug/kg dry	D		
Chromium	7440-47-3	<1190	1190	597	ug/kg dry	U	U	
Copper	7440-50-8	15900	597	298	ug/kg dry	D		
Lead	7439-92-1	13300	119	59.7	ug/kg dry	D		
Nickel	7440-02-0	<597	597	298	ug/kg dry	U	U	
Selenium	7782-49-2	<1190	1190	597	ug/kg dry	U	U	
Silver	7440-22-4	313	597	298	ug/kg dry	JD	J	
Thallium	7440-28-0	<1190	1190	597	ug/kg dry	U	U	
Uranium	7440-61-1	3370	119	59.7	ug/kg dry	D		

Lab Sample Name: C161022-03 **Sample No:** A8M5-2564 **Sample Date:** 10/6/2016 10:00:00 AM

Location A34 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<248	248	124	ug/kg dry	U	U	
Arsenic	7440-38-2	754	496	124	ug/kg dry	D	J	E
Cadmium	7440-43-9	1620	49.6	24.8	ug/kg dry	D		
Chromium	7440-47-3	722	496	248	ug/kg dry	D		
Copper	7440-50-8	31500	248	124	ug/kg dry	D		

Analysis Method ICPMS Tot. Rec. Metals

Lead	7439-92-1	7640	49.6	24.8	ug/kg dry	D		
Nickel	7440-02-0	622	248	124	ug/kg dry	D		
Selenium	7782-49-2	316	496	248	ug/kg dry	JD	J	
Silver	7440-22-4	<248	248	124	ug/kg dry	U	U	
Thallium	7440-28-0	<496	496	248	ug/kg dry	U	U	
Uranium	7440-61-1	41.2	49.6	24.8	ug/kg dry	JD	J	

Lab Sample Name: C161022-04 **Sample No:** A8M5-2563 **Sample Date:** 10/6/2016 1:00:00 PM

Location A37 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<122	122	61.0	ug/kg dry	U	U	
Arsenic	7440-38-2	330	244	61.0	ug/kg dry	D	J	E
Cadmium	7440-43-9	1090	24.4	12.2	ug/kg dry	D		
Chromium	7440-47-3	484	244	122	ug/kg dry	D		
Copper	7440-50-8	57200	122	61.0	ug/kg dry	D		
Lead	7439-92-1	34400	24.4	12.2	ug/kg dry	D		
Nickel	7440-02-0	338	122	61.0	ug/kg dry	D		
Selenium	7782-49-2	233	244	122	ug/kg dry	JD	J	
Silver	7440-22-4	187	122	61.0	ug/kg dry	D		
Thallium	7440-28-0	<244	244	122	ug/kg dry	U	U	
Uranium	7440-61-1	14.4	24.4	12.2	ug/kg dry	JD	J	

Lab Sample Name: C161022-05 **Sample No:** A8M5-2561 **Sample Date:** 10/4/2016 3:00:00 PM

Location A43 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<122	122	60.8	ug/kg dry	U	U	
Arsenic	7440-38-2	229	243	60.8	ug/kg dry	JD	J	E
Cadmium	7440-43-9	223	24.3	12.2	ug/kg dry	D		
Chromium	7440-47-3	501	243	122	ug/kg dry	D		
Copper	7440-50-8	4270	122	60.8	ug/kg dry	D		
Lead	7439-92-1	543	24.3	12.2	ug/kg dry	D		
Nickel	7440-02-0	105	122	60.8	ug/kg dry	JD	J	
Selenium	7782-49-2	895	243	122	ug/kg dry	D		
Silver	7440-22-4	<122	122	60.8	ug/kg dry	U	U	
Thallium	7440-28-0	<243	243	122	ug/kg dry	U	U	
Uranium	7440-61-1	<24.3	24.3	12.2	ug/kg dry	U	U	

Lab Sample Name: C161022-06 **Sample No:** A8M5-2559 **Sample Date:** 10/4/2016 10:00:00 AM

Location A45 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<125	125	62.3	ug/kg dry	U	U	
Arsenic	7440-38-2	449	249	62.3	ug/kg dry	D	J	E

Analysis Method ICPMS Tot. Rec. Metals

Cadmium	7440-43-9	970	24.9	12.5	ug/kg dry	D		
Chromium	7440-47-3	616	249	125	ug/kg dry	D		
Copper	7440-50-8	19700	125	62.3	ug/kg dry	D		
Lead	7439-92-1	10600	24.9	12.5	ug/kg dry	D		
Nickel	7440-02-0	245	125	62.3	ug/kg dry	D		
Selenium	7782-49-2	351	249	125	ug/kg dry	D		
Silver	7440-22-4	99.8	125	62.3	ug/kg dry	JD	J	
Thallium	7440-28-0	<249	249	125	ug/kg dry	U	U	
Uranium	7440-61-1	115	24.9	12.5	ug/kg dry	D		

Lab Sample Name: C161022-07 **Sample No:** A8M5-2560 **Sample Date:** 10/4/2016 1:00:00 PM

Location A48 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<123	123	61.5	ug/kg dry	U	U	
Arsenic	7440-38-2	431	246	61.5	ug/kg dry	D	J	E
Cadmium	7440-43-9	1340	24.6	12.3	ug/kg dry	D		
Chromium	7440-47-3	531	246	123	ug/kg dry	D		
Copper	7440-50-8	29000	123	61.5	ug/kg dry	D		
Lead	7439-92-1	8520	24.6	12.3	ug/kg dry	D		
Nickel	7440-02-0	103	123	61.5	ug/kg dry	JD	J	
Selenium	7782-49-2	667	246	123	ug/kg dry	D		
Silver	7440-22-4	283	123	61.5	ug/kg dry	D		
Thallium	7440-28-0	<246	246	123	ug/kg dry	U	U	
Uranium	7440-61-1	20.6	24.6	12.3	ug/kg dry	JD	J	

Lab Sample Name: C161022-08 **Sample No:** A8M5-2558 **Sample Date:** 10/3/2016 12:00:00 PM

Location A56 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<118	118	59.0	ug/kg dry	U	U	
Arsenic	7440-38-2	178	236	59.0	ug/kg dry	JD	J	E
Cadmium	7440-43-9	585	23.6	11.8	ug/kg dry	D		
Chromium	7440-47-3	552	236	118	ug/kg dry	D		
Copper	7440-50-8	11600	118	59.0	ug/kg dry	D		
Lead	7439-92-1	3460	23.6	11.8	ug/kg dry	D		
Nickel	7440-02-0	188	118	59.0	ug/kg dry	D		
Selenium	7782-49-2	414	236	118	ug/kg dry	D		
Silver	7440-22-4	<118	118	59.0	ug/kg dry	U	U	
Thallium	7440-28-0	<236	236	118	ug/kg dry	U	U	
Uranium	7440-61-1	52.7	23.6	11.8	ug/kg dry	D		

Analysis Method ICPMS Tot. Rec. Metals

Lab Sample Name: C161022-09 **Sample No:** A8M5-2569 **Sample Date:** 10/11/2016 2:00:00 PM

Location An Rv-abv Eureka **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<265	265	132	ug/kg dry	U	U	
Arsenic	7440-38-2	212	529	132	ug/kg dry	JD	J	E
Cadmium	7440-43-9	769	52.9	26.5	ug/kg dry	D		
Chromium	7440-47-3	414	529	265	ug/kg dry	JD	J	
Copper	7440-50-8	26200	265	132	ug/kg dry	D		
Lead	7439-92-1	2960	52.9	26.5	ug/kg dry	D		
Nickel	7440-02-0	<265	265	132	ug/kg dry	U	U	
Selenium	7782-49-2	<529	529	265	ug/kg dry	U	U	
Silver	7440-22-4	<265	265	132	ug/kg dry	U	U	
Thallium	7440-28-0	<529	529	265	ug/kg dry	U	U	
Uranium	7440-61-1	295	52.9	26.5	ug/kg dry	D		

Lab Sample Name: C161022-10 **Sample No:** A8M5-2570 **Sample Date:** 10/11/2016 10:30:00 AM

Location An RV-Abv Minnie **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	79.8	135	67.7	ug/kg dry	JD	J	
Arsenic	7440-38-2	898	271	67.7	ug/kg dry	D	J	E
Cadmium	7440-43-9	1120	27.1	13.5	ug/kg dry	D		
Chromium	7440-47-3	580	271	135	ug/kg dry	D		
Copper	7440-50-8	30700	135	67.7	ug/kg dry	D		
Lead	7439-92-1	10500	27.1	13.5	ug/kg dry	D		
Nickel	7440-02-0	296	135	67.7	ug/kg dry	D		
Selenium	7782-49-2	226	271	135	ug/kg dry	JD	J	
Silver	7440-22-4	108	135	67.7	ug/kg dry	JD	J	
Thallium	7440-28-0	<271	271	135	ug/kg dry	U	U	
Uranium	7440-61-1	401	27.1	13.5	ug/kg dry	D		

Lab Sample Name: C161022-11 **Sample No:** A8M5-2557 **Sample Date:** 9/30/2016 10:00:00 AM

Location Hermosa Cr **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<123	123	61.4	ug/kg dry	U	U	
Arsenic	7440-38-2	139	246	61.4	ug/kg dry	JD	J	
Cadmium	7440-43-9	30.3	24.6	12.3	ug/kg dry	D		
Chromium	7440-47-3	556	246	123	ug/kg dry	D		
Copper	7440-50-8	3780	123	61.4	ug/kg dry	D		
Lead	7439-92-1	83.3	24.6	12.3	ug/kg dry	D		
Nickel	7440-02-0	115	123	61.4	ug/kg dry	JD	J	
Selenium	7782-49-2	855	246	123	ug/kg dry	D		

Analysis Method ICPMS Tot. Rec. Metals

Silver	7440-22-4	<123	123	61.4	ug/kg dry	U	U	
Thallium	7440-28-0	<246	246	123	ug/kg dry	U	U	
Uranium	7440-61-1	24.0	24.6	12.3	ug/kg dry	JD	J	

Lab Sample Name: C161022-12 **Sample No:** A8M5-2578 **Sample Date:** 10/17/2016 1:00:00 PM

Location M08 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<125	125	62.5	ug/kg dry	U	U	
Arsenic	7440-38-2	312	250	62.5	ug/kg dry	D	J	E
Cadmium	7440-43-9	258	25.0	12.5	ug/kg dry	D		
Chromium	7440-47-3	487	250	125	ug/kg dry	D		
Copper	7440-50-8	5180	125	62.5	ug/kg dry	D		
Lead	7439-92-1	4420	25.0	12.5	ug/kg dry	D		
Nickel	7440-02-0	153	125	62.5	ug/kg dry	D		
Selenium	7782-49-2	336	250	125	ug/kg dry	D		
Silver	7440-22-4	<125	125	62.5	ug/kg dry	U	U	
Thallium	7440-28-0	128	250	125	ug/kg dry	JD	J	
Uranium	7440-61-1	151	25.0	12.5	ug/kg dry	D		

Lab Sample Name: C161022-13 **Sample No:** A8M5-2577 **Sample Date:** 10/17/2016 10:30:00 AM

Location M10a **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<135	135	67.4	ug/kg dry	U	U	
Arsenic	7440-38-2	2550	270	67.4	ug/kg dry	D	J	E
Cadmium	7440-43-9	366	27.0	13.5	ug/kg dry	D		
Chromium	7440-47-3	437	270	135	ug/kg dry	D		
Copper	7440-50-8	58700	135	67.4	ug/kg dry	D		
Lead	7439-92-1	166000	27.0	13.5	ug/kg dry	D		
Nickel	7440-02-0	204	135	67.4	ug/kg dry	D		
Selenium	7782-49-2	177	270	135	ug/kg dry	JD	J	
Silver	7440-22-4	67.9	135	67.4	ug/kg dry	JD	J	
Thallium	7440-28-0	<270	270	135	ug/kg dry	U	U	
Uranium	7440-61-1	67.9	27.0	13.5	ug/kg dry	D		

Lab Sample Name: C161022-14 **Sample No:** A8M5-2576 **Sample Date:** 10/14/2016 2:00:00 PM

Location M14B **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<122	122	60.9	ug/kg dry	U	U	
Arsenic	7440-38-2	480	243	60.9	ug/kg dry	D	J	E
Cadmium	7440-43-9	143	24.3	12.2	ug/kg dry	D		
Chromium	7440-47-3	565	243	122	ug/kg dry	D		
Copper	7440-50-8	14100	122	60.9	ug/kg dry	D		

Lead		7439-92-1	8020	24.3	12.2	ug/kg dry	D	
Nickel		7440-02-0	112	122	60.9	ug/kg dry	JD	J
Selenium		7782-49-2	302	243	122	ug/kg dry	D	
Silver		7440-22-4	<122	122	60.9	ug/kg dry	U	U
Thallium		7440-28-0	<243	243	122	ug/kg dry	U	U
Uranium		7440-61-1	50.7	24.3	12.2	ug/kg dry	D	

Lab Sample Name: C161022-15 **Sample No:** A8M5-2574 **Sample Date:** 10/13/2016 12:30:00 PM

Location M27 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<1260	1260	630	ug/kg dry	U	U	
Arsenic	7440-38-2	<2520	2520	630	ug/kg dry	U	UJ	E
Cadmium	7440-43-9	<252	252	126	ug/kg dry	U	U	
Chromium	7440-47-3	<2520	2520	1260	ug/kg dry	U	U	
Copper	7440-50-8	5460	1260	630	ug/kg dry	D		
Lead	7439-92-1	8200	252	126	ug/kg dry	D		
Nickel	7440-02-0	<1260	1260	630	ug/kg dry	U	U	
Selenium	7782-49-2	<2520	2520	1260	ug/kg dry	U	U	
Silver	7440-22-4	<1260	1260	630	ug/kg dry	U	U	
Thallium	7440-28-0	<2520	2520	1260	ug/kg dry	U	U	
Uranium	7440-61-1	<252	252	126	ug/kg dry	U	U	

Lab Sample Name: C161022-16 **Sample No:** A8M5-2573 **Sample Date:** 10/13/2016 10:00:00 AM

Location M28 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<117	117	58.3	ug/kg dry	U	U	
Arsenic	7440-38-2	354	233	58.3	ug/kg dry	D	J	E
Cadmium	7440-43-9	111	23.3	11.7	ug/kg dry	D		
Chromium	7440-47-3	786	233	117	ug/kg dry	D		
Copper	7440-50-8	7920	117	58.3	ug/kg dry	D		
Lead	7439-92-1	702	23.3	11.7	ug/kg dry	D		
Nickel	7440-02-0	267	117	58.3	ug/kg dry	D		
Selenium	7782-49-2	488	233	117	ug/kg dry	D		
Silver	7440-22-4	<117	117	58.3	ug/kg dry	U	U	
Thallium	7440-28-0	<233	233	117	ug/kg dry	U	U	
Uranium	7440-61-1	44.9	23.3	11.7	ug/kg dry	D		

Lab Sample Name: C161022-17 **Sample No:** A8M5-2571 **Sample Date:** 10/12/2016 3:00:00 PM

Location M30 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<124	124	61.8	ug/kg dry	U	U	
Arsenic	7440-38-2	294	247	61.8	ug/kg dry	D	J	E

Analysis Method ICPMS Tot. Rec. Metals

Cadmium	7440-43-9	293	24.7	12.4	ug/kg dry	D		
Chromium	7440-47-3	460	247	124	ug/kg dry	D		
Copper	7440-50-8	5160	124	61.8	ug/kg dry	D		
Lead	7439-92-1	199	24.7	12.4	ug/kg dry	D		
Nickel	7440-02-0	249	124	61.8	ug/kg dry	D		
Selenium	7782-49-2	1100	247	124	ug/kg dry	D		
Silver	7440-22-4	<124	124	61.8	ug/kg dry	U	U	
Thallium	7440-28-0	<247	247	124	ug/kg dry	U	U	
Uranium	7440-61-1	136	24.7	12.4	ug/kg dry	D		

Lab Sample Name: C161022-18 **Sample No:** A8M5-2572 **Sample Date:** 10/12/2016 10:30:00 AM

Location M34 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<125	125	62.5	ug/kg dry	U	U	
Arsenic	7440-38-2	181	250	62.5	ug/kg dry	JD	J	E
Cadmium	7440-43-9	114	25.0	12.5	ug/kg dry	D		
Chromium	7440-47-3	499	250	125	ug/kg dry	D		
Copper	7440-50-8	11400	125	62.5	ug/kg dry	D		
Lead	7439-92-1	1670	25.0	12.5	ug/kg dry	D		
Nickel	7440-02-0	74.7	125	62.5	ug/kg dry	JD	J	
Selenium	7782-49-2	402	250	125	ug/kg dry	D		
Silver	7440-22-4	<125	125	62.5	ug/kg dry	U	U	
Thallium	7440-28-0	145	250	125	ug/kg dry	JD	J	
Uranium	7440-61-1	171	25.0	12.5	ug/kg dry	D		

Lab Sample Name: C161022-19 **Sample No:** A8M5-2579 **Sample Date:** 10/17/2016 3:30:00 PM

Location Mineral-Abv Browns Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	61.1	115	57.6	ug/kg dry	JD	J	
Arsenic	7440-38-2	726	230	57.6	ug/kg dry	D	J	E
Cadmium	7440-43-9	237	23.0	11.5	ug/kg dry	D		
Chromium	7440-47-3	538	230	115	ug/kg dry	D		
Copper	7440-50-8	18900	115	57.6	ug/kg dry	D		
Lead	7439-92-1	28500	23.0	11.5	ug/kg dry	D		
Nickel	7440-02-0	103	115	57.6	ug/kg dry	JD	J	
Selenium	7782-49-2	309	230	115	ug/kg dry	D		
Silver	7440-22-4	<115	115	57.6	ug/kg dry	U	U	
Thallium	7440-28-0	<230	230	115	ug/kg dry	U	U	
Uranium	7440-61-1	31.1	23.0	11.5	ug/kg dry	D		

Analysis Method ICPMS Tot. Rec. Metals

Lab Sample Name: C161022-20 **Sample No:** A8M5-2562 **Sample Date:** 10/5/2016 11:00:00 AM

Location Picayne Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<95.3	95.3	47.6	ug/kg dry	U	U	
Arsenic	7440-38-2	1260	191	47.6	ug/kg dry	D	J	E
Cadmium	7440-43-9	181	19.1	9.5	ug/kg dry	D		
Chromium	7440-47-3	551	191	95.3	ug/kg dry	D		
Copper	7440-50-8	3430	95.3	47.6	ug/kg dry	D		
Lead	7439-92-1	1020	19.1	9.5	ug/kg dry	D		
Nickel	7440-02-0	244	95.3	47.6	ug/kg dry	D		
Selenium	7782-49-2	544	191	95.3	ug/kg dry	D		
Silver	7440-22-4	57.7	95.3	47.6	ug/kg dry	JD	J	
Thallium	7440-28-0	<191	191	95.3	ug/kg dry	U	U	
Uranium	7440-61-1	<19.1	19.1	9.5	ug/kg dry	U	U	

Lab Sample Name: C161022-21 **Sample No:** A8M5-2568 **Sample Date:** 10/10/2016 1:00:00 PM

Location Placer Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<1920	1920	959	ug/kg dry	U	U	
Arsenic	7440-38-2	<3830	3830	959	ug/kg dry	U	UJ	E
Cadmium	7440-43-9	337	383	192	ug/kg dry	JD	J	
Chromium	7440-47-3	<3830	3830	1920	ug/kg dry	U	U	
Copper	7440-50-8	19800	1920	959	ug/kg dry	D		
Lead	7439-92-1	15100	383	192	ug/kg dry	D		
Nickel	7440-02-0	<1920	1920	959	ug/kg dry	U	U	
Selenium	7782-49-2	<3830	3830	1920	ug/kg dry	U	U	
Silver	7440-22-4	<1920	1920	959	ug/kg dry	U	U	
Thallium	7440-28-0	<3830	3830	1920	ug/kg dry	U	U	
Uranium	7440-61-1	1320	383	192	ug/kg dry	D		

Lab Sample Name: C161022-22 **Sample No:** A8M5-2567 **Sample Date:** 10/8/2016 12:00:00 PM

Location SF Animas River **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<120	120	60.0	ug/kg dry	U	U	
Arsenic	7440-38-2	78.9	240	60.0	ug/kg dry	JD	J	E
Cadmium	7440-43-9	118	24.0	12.0	ug/kg dry	D		
Chromium	7440-47-3	306	240	120	ug/kg dry	D		
Copper	7440-50-8	1890	120	60.0	ug/kg dry	D		
Lead	7439-92-1	327	24.0	12.0	ug/kg dry	D		
Nickel	7440-02-0	173	120	60.0	ug/kg dry	D		
Selenium	7782-49-2	480	240	120	ug/kg dry	D		

Analysis Method ICPMS Tot. Rec. Metals

Silver	7440-22-4	<120	120	60.0	ug/kg dry	U	U	
Thallium	7440-28-0	<240	240	120	ug/kg dry	U	U	
Uranium	7440-61-1	<24.0	24.0	12.0	ug/kg dry	U	U	

Lab Sample Name: C161022-23 **Sample No:** A8M5-2575 **Sample Date:** 10/13/2016 3:00:00 PM

Location SF Mineral-Below CG **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<224	224	112	ug/kg dry	U	U	
Arsenic	7440-38-2	342	448	112	ug/kg dry	JD	J	E
Cadmium	7440-43-9	316	44.8	22.4	ug/kg dry	D		
Chromium	7440-47-3	514	448	224	ug/kg dry	D		
Copper	7440-50-8	3910	224	112	ug/kg dry	D		
Lead	7439-92-1	1620	44.8	22.4	ug/kg dry	D		
Nickel	7440-02-0	878	224	112	ug/kg dry	D		
Selenium	7782-49-2	539	448	224	ug/kg dry	D		
Silver	7440-22-4	<224	224	112	ug/kg dry	U	U	
Thallium	7440-28-0	<448	448	224	ug/kg dry	U	U	
Uranium	7440-61-1	85.4	44.8	22.4	ug/kg dry	D		

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-01 **Sample No:** A8M5-2565 **Sample Date:** 10/7/2016 1:00:00 PM

Location A05 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	268	6.28	2.51	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.628	0.628	0.126	mg/kg dr	U	U	
Calcium	7440-70-2	348	31.4	12.6	mg/kg dr	D	J	E
Iron	7439-89-6	539	31.4	12.6	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	271	31.4	12.6	mg/kg dr	D	J	E
Manganese	7439-96-5	75.7	0.628	0.251	mg/kg dr	D		
Silica (SiO2)	763-18-69	569	126	31.4	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.18	1.26	0.251	mg/kg dr	JD	J-	L, E, Q
Zinc	7440-66-6	185	2.51	1.26	mg/kg dr	D	J	E

Lab Sample Name: C161022-02 **Sample No:** A8M5-2566 **Sample Date:** 10/7/2016 11:00:00 AM

Location A07 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	721	29.8	11.9	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<2.98	2.98	0.597	mg/kg dr	U	U	
Calcium	7440-70-2	<149	149	59.7	mg/kg dr	U	UJ	E
Iron	7439-89-6	1230	149	59.7	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	158	149	59.7	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Manganese	7439-96-5	308	2.98	1.19	mg/kg dr	D			
Silica (SiO2)	763-18-69	657	597	149	mg/kg dr	D		J+	Q
Strontium	7440-24-6	<5.97	5.97	1.19	mg/kg dr	U		R	L
Zinc	7440-66-6	38.5	11.9	5.97	mg/kg dr	D		J	E

Lab Sample Name: C161022-03 **Sample No:** A8M5-2564 **Sample Date:** 10/6/2016 10:00:00 AM

Location A34 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	840	12.4	4.96	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<1.24	1.24	0.248	mg/kg dr	U	U	
Calcium	7440-70-2	687	62.0	24.8	mg/kg dr	D	J	E
Iron	7439-89-6	2220	62.0	24.8	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	519	62.0	24.8	mg/kg dr	D	J	E
Manganese	7439-96-5	147	1.24	0.496	mg/kg dr	D		
Silica (SiO2)	763-18-69	807	248	62.0	mg/kg dr	D	J+	Q
Strontium	7440-24-6	8.64	2.48	0.496	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	345	4.96	2.48	mg/kg dr	D	J	E

Lab Sample Name: C161022-04 **Sample No:** A8M5-2563 **Sample Date:** 10/6/2016 1:00:00 PM

Location A37 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	319	6.10	2.44	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.610	0.610	0.122	mg/kg dr	U	U	
Calcium	7440-70-2	190	30.5	12.2	mg/kg dr	D	J	E
Iron	7439-89-6	620	30.5	12.2	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	188	30.5	12.2	mg/kg dr	D	J	E
Manganese	7439-96-5	224	0.610	0.244	mg/kg dr	D		
Silica (SiO2)	763-18-69	254	122	30.5	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.92	1.22	0.244	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	199	2.44	1.22	mg/kg dr	D	J	E

Lab Sample Name: C161022-05 **Sample No:** A8M5-2561 **Sample Date:** 10/4/2016 3:00:00 PM

Location A43 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	51.5	6.08	2.43	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.608	0.608	0.122	mg/kg dr	U	U	
Calcium	7440-70-2	205	30.4	12.2	mg/kg dr	D	J	E
Iron	7439-89-6	96.6	30.4	12.2	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	193	30.4	12.2	mg/kg dr	D	J	E
Manganese	7439-96-5	29.8	0.608	0.243	mg/kg dr	D		
Silica (SiO2)	763-18-69	136	122	30.4	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.48	1.22	0.243	mg/kg dr	D	J-	L, E, Q

Analysis Method ICPOE Tot. Rec. Metals

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Zinc	7440-66-6	71.3	2.43	1.22	mg/kg dr	D	J	E

Lab Sample Name: C161022-06 **Sample No:** A8M5-2559 **Sample Date:** 10/4/2016 10:00:00 AM

Location A45 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	334	6.23	2.49	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	0.206	0.623	0.125	mg/kg dr	JD	J	
Calcium	7440-70-2	181	31.1	12.5	mg/kg dr	D	J	E
Iron	7439-89-6	304	31.1	12.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	206	31.1	12.5	mg/kg dr	D	J	E
Manganese	7439-96-5	167	0.623	0.249	mg/kg dr	D		
Silica (SiO2)	763-18-69	248	125	31.1	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.96	1.25	0.249	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	213	2.49	1.25	mg/kg dr	D	J	E

Lab Sample Name: C161022-07 **Sample No:** A8M5-2560 **Sample Date:** 10/4/2016 1:00:00 PM

Location A48 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	197	6.15	2.46	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.615	0.615	0.123	mg/kg dr	U	U	
Calcium	7440-70-2	276	30.8	12.3	mg/kg dr	D	J	E
Iron	7439-89-6	545	30.8	12.3	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	266	30.8	12.3	mg/kg dr	D	J	E
Manganese	7439-96-5	39.2	0.615	0.246	mg/kg dr	D		
Silica (SiO2)	763-18-69	309	123	30.8	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.62	1.23	0.246	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	134	2.46	1.23	mg/kg dr	D	J	E

Lab Sample Name: C161022-08 **Sample No:** A8M5-2558 **Sample Date:** 10/3/2016 12:00:00 PM

Location A56 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	171	5.90	2.36	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	0.139	0.590	0.118	mg/kg dr	JD	J	
Calcium	7440-70-2	142	29.5	11.8	mg/kg dr	D	J	E
Iron	7439-89-6	160	29.5	11.8	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	157	29.5	11.8	mg/kg dr	D	J	E
Manganese	7439-96-5	63.8	0.590	0.236	mg/kg dr	D		
Silica (SiO2)	763-18-69	159	118	29.5	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.77	1.18	0.236	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	196	2.36	1.18	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-09 **Sample No:** A8M5-2569 **Sample Date:** 10/11/2016 2:00:00 PM

Location An Rv-abv Eureka **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	569	13.2	5.29	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	0.677	1.32	0.265	mg/kg dr	JD	J	
Calcium	7440-70-2	145	66.1	26.5	mg/kg dr	D	J	E
Iron	7439-89-6	84.8	66.1	26.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	103	66.1	26.5	mg/kg dr	D	J	E
Manganese	7439-96-5	30.5	1.32	0.529	mg/kg dr	D		
Silica (SiO2)	763-18-69	202	265	66.1	mg/kg dr	JD	J+	Q
Strontium	7440-24-6	1.29	2.65	0.529	mg/kg dr	JD	J-	L, E, Q
Zinc	7440-66-6	82.5	5.29	2.65	mg/kg dr	D	J	E

Lab Sample Name: C161022-10 **Sample No:** A8M5-2570 **Sample Date:** 10/11/2016 10:30:00 AM

Location An RV-Abv Minnie **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	952	6.77	2.71	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	0.786	0.677	0.135	mg/kg dr	D		
Calcium	7440-70-2	177	33.9	13.5	mg/kg dr	D	J	E
Iron	7439-89-6	324	33.9	13.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	185	33.9	13.5	mg/kg dr	D	J	E
Manganese	7439-96-5	133	0.677	0.271	mg/kg dr	D		
Silica (SiO2)	763-18-69	528	135	33.9	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.89	1.35	0.271	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	212	2.71	1.35	mg/kg dr	D	J	E

Lab Sample Name: C161022-11 **Sample No:** A8M5-2557 **Sample Date:** 9/30/2016 10:00:00 AM

Location Hermosa Cr **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	62.8	6.14	2.46	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.614	0.614	0.123	mg/kg dr	U	U	
Calcium	7440-70-2	1880	30.7	12.3	mg/kg dr	D	J	E
Iron	7439-89-6	85.0	30.7	12.3	mg/kg dr	D		
Magnesium	7439-95-4	333	30.7	12.3	mg/kg dr	D	J	E
Manganese	7439-96-5	8.40	0.614	0.246	mg/kg dr	D		
Silica (SiO2)	763-18-69	191	123	30.7	mg/kg dr	D	J+	Q
Strontium	7440-24-6	12.6	1.23	0.246	mg/kg dr	JD	J-	L, E, Q
Zinc	7440-66-6	47.8	2.46	1.23	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-12 **Sample No:** A8M5-2578 **Sample Date:** 10/17/2016 1:00:00 PM

Location M08 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	370	6.25	2.50	mg/kg dr	D	J	E
Beryllium	7440-41-7	<0.625	0.625	0.125	mg/kg dr	U	U	
Calcium	7440-70-2	222	31.3	12.5	mg/kg dr	D	J	E
Iron	7439-89-6	157	31.3	12.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	161	31.3	12.5	mg/kg dr	D	J	E
Manganese	7439-96-5	75.7	0.625	0.250	mg/kg dr	D		
Silica (SiO2)	763-18-69	279	125	31.3	mg/kg dr	D		
Strontium	7440-24-6	4.12	1.25	0.250	mg/kg dr	D	J-	L, E
Zinc	7440-66-6	56.1	2.50	1.25	mg/kg dr	D	J	E

Lab Sample Name: C161022-13 **Sample No:** A8M5-2577 **Sample Date:** 10/17/2016 10:30:00 AM

Location M10a **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	304	6.74	2.70	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.674	0.674	0.135	mg/kg dr	U	U	
Calcium	7440-70-2	170	33.7	13.5	mg/kg dr	D	J	E
Iron	7439-89-6	646	33.7	13.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	134	33.7	13.5	mg/kg dr	D	J	E
Manganese	7439-96-5	49.4	0.674	0.270	mg/kg dr	D		
Silica (SiO2)	763-18-69	285	135	33.7	mg/kg dr	D	J+	Q
Strontium	7440-24-6	3.70	1.35	0.270	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	110	2.70	1.35	mg/kg dr	D	J	E

Lab Sample Name: C161022-14 **Sample No:** A8M5-2576 **Sample Date:** 10/14/2016 2:00:00 PM

Location M14B **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	722	6.09	2.43	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.609	0.609	0.122	mg/kg dr	U	U	
Calcium	7440-70-2	127	30.4	12.2	mg/kg dr	D	J	E
Iron	7439-89-6	641	30.4	12.2	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	205	30.4	12.2	mg/kg dr	D	J	E
Manganese	7439-96-5	28.0	0.609	0.243	mg/kg dr	D		
Silica (SiO2)	763-18-69	412	122	30.4	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.97	1.22	0.243	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	51.8	2.43	1.22	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-15 **Sample No:** A8M5-2574 **Sample Date:** 10/13/2016 12:30:00 PM

Location M27 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	558	63.0	25.2	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<6.30	6.30	1.26	mg/kg dr	U	U	
Calcium	7440-70-2	135	315	126	mg/kg dr	JD	J	E
Iron	7439-89-6	6400	315	126	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	<315	315	126	mg/kg dr	U	UJ	E
Manganese	7439-96-5	22.8	6.30	2.52	mg/kg dr	D		
Silica (SiO2)	763-18-69	<1260	1260	315	mg/kg dr	U	U	
Strontium	7440-24-6	<12.6	12.6	2.52	mg/kg dr	U	R	L
Zinc	7440-66-6	23.6	25.2	12.6	mg/kg dr	JD	J	E

Lab Sample Name: C161022-16 **Sample No:** A8M5-2573 **Sample Date:** 10/13/2016 10:00:00 AM

Location M28 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	471	5.83	2.33	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.583	0.583	0.117	mg/kg dr	U	U	
Calcium	7440-70-2	243	29.2	11.7	mg/kg dr	D	J	E
Iron	7439-89-6	1510	29.2	11.7	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	156	29.2	11.7	mg/kg dr	D	J	E
Manganese	7439-96-5	10.1	0.583	0.233	mg/kg dr	D		
Silica (SiO2)	763-18-69	508	117	29.2	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.80	1.17	0.233	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	41.7	2.33	1.17	mg/kg dr	D	J	E

Lab Sample Name: C161022-17 **Sample No:** A8M5-2571 **Sample Date:** 10/12/2016 3:00:00 PM

Location M30 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	96.9	6.18	2.47	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.618	0.618	0.124	mg/kg dr	U	U	
Calcium	7440-70-2	722	30.9	12.4	mg/kg dr	D	J	E
Iron	7439-89-6	118	30.9	12.4	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	180	30.9	12.4	mg/kg dr	D	J	E
Manganese	7439-96-5	42.2	0.618	0.247	mg/kg dr	D		
Silica (SiO2)	763-18-69	190	124	30.9	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.70	1.24	0.247	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	62.4	2.47	1.24	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-18 **Sample No:** A8M5-2572 **Sample Date:** 10/12/2016 10:30:00 AM

Location M34 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	580	6.25	2.50	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.625	0.625	0.125	mg/kg dr	U	U	
Calcium	7440-70-2	124	31.2	12.5	mg/kg dr	D	J	E
Iron	7439-89-6	1790	31.2	12.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	120	31.2	12.5	mg/kg dr	D	J	E
Manganese	7439-96-5	7.76	0.625	0.250	mg/kg dr	D		
Silica (SiO2)	763-18-69	744	125	31.2	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.41	1.25	0.250	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	40.3	2.50	1.25	mg/kg dr	D	J	E

Lab Sample Name: C161022-19 **Sample No:** A8M5-2579 **Sample Date:** 10/17/2016 3:30:00 PM

Location Mineral-Abv Browns Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	378	5.76	2.30	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.576	0.576	0.115	mg/kg dr	U	U	
Calcium	7440-70-2	190	28.8	11.5	mg/kg dr	D	J	E
Iron	7439-89-6	415	28.8	11.5	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	145	28.8	11.5	mg/kg dr	D	J	E
Manganese	7439-96-5	25.4	0.576	0.230	mg/kg dr	D		
Silica (SiO2)	763-18-69	298	115	28.8	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.77	1.15	0.230	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	98.6	2.30	1.15	mg/kg dr	D	J	E

Lab Sample Name: C161022-20 **Sample No:** A8M5-2562 **Sample Date:** 10/5/2016 11:00:00 AM

Location Picayne Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	128	4.76	1.91	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<0.476	0.476	0.0953	mg/kg dr	U	U	
Calcium	7440-70-2	225	23.8	9.53	mg/kg dr	D	J	E
Iron	7439-89-6	291	23.8	9.53	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	201	23.8	9.53	mg/kg dr	D	J	E
Manganese	7439-96-5	290	0.476	0.191	mg/kg dr	D		
Silica (SiO2)	763-18-69	246	95.3	23.8	mg/kg dr	D	J+	Q
Strontium	7440-24-6	2.51	0.953	0.191	mg/kg dr	D	J-	L, E, Q
Zinc	7440-66-6	71.8	1.91	0.953	mg/kg dr	D	J	E

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161022-21 **Sample No:** A8M5-2568 **Sample Date:** 10/10/2016 1:00:00 PM

Location Placer Gulch **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	1200	95.9	38.3	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<9.59	9.59	1.92	mg/kg dr	U	U	
Calcium	7440-70-2	<479	479	192	mg/kg dr	U	UJ	E
Iron	7439-89-6	241	479	192	mg/kg dr	JD	J+	Q
Magnesium	7439-95-4	<479	479	192	mg/kg dr	U	UJ	E
Manganese	7439-96-5	35.1	9.59	3.83	mg/kg dr	D		
Silica (SiO2)	763-18-69	<1920	1920	479	mg/kg dr	U	U	
Strontium	7440-24-6	<19.2	19.2	3.83	mg/kg dr	U	R	L
Zinc	7440-66-6	51.8	38.3	19.2	mg/kg dr	D	J	E

Lab Sample Name: C161022-22 **Sample No:** A8M5-2567 **Sample Date:** 10/8/2016 12:00:00 PM

Location SF Animas River **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	17.1	6.00	2.40	mg/kg dr	D		
Beryllium	7440-41-7	<0.600	0.600	0.120	mg/kg dr	U	U	
Calcium	7440-70-2	150	30.0	12.0	mg/kg dr	D		
Iron	7439-89-6	57.7	30.0	12.0	mg/kg dr	D		
Magnesium	7439-95-4	88.5	30.0	12.0	mg/kg dr	D		
Manganese	7439-96-5	8.87	0.600	0.240	mg/kg dr	D		
Silica (SiO2)	763-18-69	43.3	120	30.0	mg/kg dr	JD	J+	Q
Strontium	7440-24-6	1.50	1.20	0.240	mg/kg dr	D	J-	L
Zinc	7440-66-6	46.8	2.40	1.20	mg/kg dr	D		

Lab Sample Name: C161022-23 **Sample No:** A8M5-2575 **Sample Date:** 10/13/2016 3:00:00 PM

Location SF Mineral-Below CG **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	569	11.2	4.48	mg/kg dr	D	J+	E, Q
Beryllium	7440-41-7	<1.12	1.12	0.224	mg/kg dr	U	U	
Calcium	7440-70-2	252	56.0	22.4	mg/kg dr	D	J	E
Iron	7439-89-6	216	56.0	22.4	mg/kg dr	D	J+	Q
Magnesium	7439-95-4	151	56.0	22.4	mg/kg dr	D	J	E
Manganese	7439-96-5	71.9	1.12	0.448	mg/kg dr	D		
Silica (SiO2)	763-18-69	377	224	56.0	mg/kg dr	D	J+	Q
Strontium	7440-24-6	1.68	2.24	0.448	mg/kg dr	JD	J-	L, E, Q
Zinc	7440-66-6	90.9	4.48	2.24	mg/kg dr	D	J	E

Analysis Method TM_Mercury 245.1

Lab Sample Name: C161022-01 **Sample No:** A8M5-2565 **Sample Date:** 10/7/2016 1:00:00 PM

Location A05 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.050	0.050	0.025	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-02 **Sample No:** A8M5-2566 **Sample Date:** 10/7/2016 11:00:00 AM

Location A07 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.239	0.239	0.119	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-03 **Sample No:** A8M5-2564 **Sample Date:** 10/6/2016 10:00:00 AM

Location A34 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.099	0.099	0.050	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-04 **Sample No:** A8M5-2563 **Sample Date:** 10/6/2016 1:00:00 PM

Location A37 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.049	0.049	0.024	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-05 **Sample No:** A8M5-2561 **Sample Date:** 10/4/2016 3:00:00 PM

Location A43 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.049	0.049	0.024	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-06 **Sample No:** A8M5-2559 **Sample Date:** 10/4/2016 10:00:00 AM

Location A45 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.050	0.050	0.025	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-07 **Sample No:** A8M5-2560 **Sample Date:** 10/4/2016 1:00:00 PM

Location A48 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.049	0.049	0.025	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-08 **Sample No:** A8M5-2558 **Sample Date:** 10/3/2016 12:00:00 PM

Location A56 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.047	0.047	0.024	mg/kg as	UJ	UJ	H

Analysis Method TM_Mercury 245.1

Lab Sample Name: C161022-09 **Sample No:** A8M5-2569 **Sample Date:** 10/11/2016 2:00:00 PM

Location An Rv-abv Eureka **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.106	0.106	0.053	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-10 **Sample No:** A8M5-2570 **Sample Date:** 10/11/2016 10:30:00 AM

Location An RV-Abv Minnie **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.054	0.054	0.027	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-11 **Sample No:** A8M5-2557 **Sample Date:** 9/30/2016 10:00:00 AM

Location Hermosa Cr **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	0.027	0.049	0.025	mg/kg as	JD	J-	H

Lab Sample Name: C161022-12 **Sample No:** A8M5-2578 **Sample Date:** 10/17/2016 1:00:00 PM

Location M08 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.050	0.050	0.025	mg/kg as	U	U	

Lab Sample Name: C161022-13 **Sample No:** A8M5-2577 **Sample Date:** 10/17/2016 10:30:00 AM

Location M10a **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.054	0.054	0.027	mg/kg as	U	U	

Lab Sample Name: C161022-14 **Sample No:** A8M5-2576 **Sample Date:** 10/14/2016 2:00:00 PM

Location M14B **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.049	0.049	0.024	mg/kg as	U	UJ	H

Lab Sample Name: C161022-15 **Sample No:** A8M5-2574 **Sample Date:** 10/13/2016 12:30:00 PM

Location M27 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.504	0.504	0.252	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-16 **Sample No:** A8M5-2573 **Sample Date:** 10/13/2016 10:00:00 AM

Location M28 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.047	0.047	0.023	mg/kg as	UJ	UJ	H

Analysis Method TM_Mercury 245.1

Lab Sample Name: C161022-17 **Sample No:** A8M5-2571 **Sample Date:** 10/12/2016 3:00:00 PM

Location M30 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.049	0.049	0.025	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-18 **Sample No:** A8M5-2572 **Sample Date:** 10/12/2016 10:30:00 AM

Location M34 **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.050	0.050	0.025	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-19 **Sample No:** A8M5-2579 **Sample Date:** 10/17/2016 3:30:00 PM

Location Mineral-Abv Browns Gulch **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.046	0.046	0.023	mg/kg as	U	U	

Lab Sample Name: C161022-20 **Sample No:** A8M5-2562 **Sample Date:** 10/5/2016 11:00:00 AM

Location Picayne Gulch **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.038	0.038	0.019	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-21 **Sample No:** A8M5-2568 **Sample Date:** 10/10/2016 1:00:00 PM

Location Placer Gulch **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.767	0.767	0.383	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-22 **Sample No:** A8M5-2567 **Sample Date:** 10/8/2016 12:00:00 PM

Location SF Animas River **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.048	0.048	0.024	mg/kg as	UJ	UJ	H

Lab Sample Name: C161022-23 **Sample No:** A8M5-2575 **Sample Date:** 10/13/2016 3:00:00 PM

Location SF Mineral-Below CG **Matrix Type:** Solid (as rcvd/wet wt

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.090	0.090	0.045	mg/kg as	UJ	UJ	H

DATA VALIDATION REPORT

Bonita Peak DV ESAT A-129

SAMPLE DELIVERY GROUP: C161023

Prepared by

MEC^X
12269 East Vassar Drive
Aurora, CO 80014

I. INTRODUCTION

Task Order Title:	Bonita Peak DV ESAT A-129
Contract Task Order:	20408.012.004.0434.00
Sample Delivery Group:	C161023
Weston Project Manager:	Natalie Quiet
EPA Project Manager:	Don Goodrich
TDD No.:	0004/1612-04
Case No.:	ESAT TDF A-129
Matrix:	Solid/Water
QC Level:	Stage 4
No. of Samples:	9
No. of Reanalyses/Dilutions:	0
Laboratory:	ESAT

Table 1. Sample Identification

Location ID	*Sample No.*	*Lab Sample Name*	*Matrix Type*	*Collection Date*	*Method*
A12	A8M5-2580	C161023-01	Water	9/28/2016 9:57:00 AM	200.7, 200.8
A12	A8M5-2580	C161023-02	Water	9/28/2016 9:57:00 AM	200.7, 200.8, 2340B,
A12	A8M5-2583	C161023-03	Solid	9/28/2016 9:57:00 AM	200.7, 200.8, 7473
CC02D	A8M5-2581	C161023-04	Water	9/27/2016 11:00:00 AM	200.7, 200.8
CC02D	A8M5-2581	C161023-05	Water	9/27/2016 11:00:00 AM	200.7, 200.8, 2340B
CC02D	A8M5-2584	C161023-06	Solid	9/27/2016 11:00:00 AM	200.7, 200.8, 7473
M12C	A8M5-2582	C161023-07	Water	9/29/2016 8:51:00 AM	200.7, 200.8
M12C	A8M5-2582	C161023-08	Water	9/29/2016 8:51:00 AM	200.7, 200.8, 2340B
M12C	A8M5-2585	C161023-09	Solid	9/29/2016 8:51:00 AM	200.7, 200.8, 7473

It should be noted that the reviewer used laboratory sample names to identify specific sample fractions in this report.

II. Sample Management

The samples were received within the temperature limits of >0°C to <6°C. According to the Sample Receipt Form (SRF) the samples were received intact and properly preserved. The chains of custody (COC) were signed and dated by field and/or laboratory personnel. The samples were logged in the by laboratory with unique laboratory ID for the total and dissolved metals, and wet chemistry analyses. Custody seals were absent; the SRF indicated that the samples were “dropped off.”

Data Qualifier Reference Table

Qualifier	Organics	Inorganics
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit. The associated value is the quantitation limit or the estimated detection limit for dioxins or PCB congeners.	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. The associated value is the sample detection limit or the quantitation limit for perchlorate only.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential positive bias.
J-	Not applicable	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample, and may have a potential negative bias.
UJ	The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.	The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."	Not applicable.

Qualifier	Organics	Inorganics
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.	Not applicable.
R	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.	The data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte cannot be verified.

Qualification Code Reference Table

Qualifier	Organics	Inorganics
H	Holding times were exceeded.	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.	The sequence or number of standards used for the calibration was incorrect
C	Calibration %RSD or %D was noncompliant.	Correlation coefficient is <0.995 or calibration was noncompliant.
R	Calibration RRF was <0.05.	%R for calibration is not within control limits.
B	Presumed contamination as indicated by the preparation (method) blank results.	Presumed contamination as indicated by the preparation (method) or calibration blank results.
L	Laboratory Blank Spike/Blank Spike Duplicate %R was not within control limits.	Laboratory Control Sample %R was not within control limits.
L1	LCS/LCSD RPD was outside control limits.	LCS/LCSD RPD was outside control limits.
Q	MS/MSD recovery was poor.	MS recovery was poor.
Q1	MS/MSD RPD was outside control limits.	MS/MSD RPD was outside control limits.
E	Not applicable.	Duplicates showed poor agreement.
I	Internal standard performance was unsatisfactory.	ICP ICS results were unsatisfactory.
A	Not applicable.	ICP Serial Dilution %D were not within control limits.
M	Tuning (BFB or DFTPP) was noncompliant.	ICPMS tune was not compliant.
T	Presumed contamination as indicated by the trip blank results.	Not applicable.
+	False positive – reported compound was not present.	Not applicable.
-	False negative – compound was present but not reported.	Not applicable.
F	Presumed contamination as indicated by the FB or ER results.	Presumed contamination as indicated by the FB or ER results.
F1	Field duplicate results were outside the control limit.	Field duplicate results were outside the control limit.
$	Reported result or other information was incorrect.	Reported result or other information was incorrect.
?	TIC identity or reported retention time has been changed.	Not applicable.

Qualifier	Organics	Inorganics
D	The analysis with this flag should not be used because another more technically sound analysis is available.	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.	Post Digestion Spike recovery was not within control limits.
*II, *III	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.	Unusual problems found with the data that have been described in Section II, "Sample Management," or Section III, "Method Analyses." The number following the asterisk (*) will indicate the report section where a description of the problem can be found.

III. Method Analyses

A. Methods 200.7, 200.8, 7473 and 2340B —Metals, Mercury and Hardness

Reviewed By: M. Hilchey
Date Reviewed: December 29, 2016

The samples listed in Table 1 for these analyses were validated based on the guidelines outlined in the *Quality Assurance Project Plan for U. S. EPA Region 8 CERCLA Site Assessment* (Rev. 2015); *United States Environmental Protection Agency Methods 200.7, 200.8 and 7473; Standard Methods 2340B;* and the *National Functional Guidelines for Inorganic Superfund Data Review* (2014).

- Holding Times: The analytical holding times, 28 days for mercury and six months for the remaining metals, were met with the following exception. All samples were analyzed past the required holding time but within 2x the requirement for mercury. Results for mercury were qualified as estimated with low potential bias (UJ for nondetects, J- for detects).
- Instrument tune: All ICPMS tuning requirements were met.
- Calibration:
  - Initial calibration: Initial instrument calibrations met method acceptance requirements.
  - Initial (ICV) and continuing calibration (CCV) verification: The ICV and CCV frequency requirements were met. ICV and CCV recoveries were within 90-110%. The reporting limit check standards met laboratory recovery limits.
- Method Blanks: No target analytes were reported in the method blanks or calibration blanks.
- Interference Check Samples (ICSA/B): Recoveries were within the control limits of 80-120% or ±2× the reporting limit, whichever is greater. For all site samples, the concentrations of more than half of the interferents were less than half of the concentrations of interferents in the ICSA; therefore, the samples were not assessed for matrix interference.
- Laboratory Control Samples (LCS): The LCS recoveries were within the laboratory control limits for all target analytes with the exception of iron (77%) in preparation batch 1611124. Iron results for samples C161023-03, C161023-06 and C161023-09 were qualified as estimated with low potential bias (J-).
- Laboratory Duplicates Laboratory duplicate analyses were performed on samples C161023-01, C161023-02 and C161023-03 for Methods 200.7 and 200.8, and on sample C161023-06 for Method 7473. All RPDs met the laboratory control limit of ≤20% for sample results <5x RL.
- Matrix Spike: Matrix spike analyses were performed on samples C161023-01, C161023-02 and C161023-03 for Methods 200.7 and 200.8. MS/MSD analyses were performed on sample C161023-06 for Method 7473. Recoveries were not assessed when the parent sample concentrations were

more than 4× the spike amount. Recoveries for all target analytes met laboratory control limits of 70-130% except as noted in the table below. Associated sample results were qualified as estimated with low potential bias (UJ and J-). MS/MSD RPDs met the control limit of ≤20%.

Target analyte	Matrix Spike recovery	Qualified samples
selenium	46%	All solid samples
antimony	50%	
lead	65%	
arsenic	59%	

- Post Digestion Spike: Post digestion spike analyses were not reported.
- Serial Dilution: Serial dilution analysis was performed on samples C161023-01, C161023-02 and C161023-03 for Methods 200.7 and 200.8. Results were not assessed unless the parent sample concentration was >50× the MDL. The control limit of ≤10% difference (%D) of the original sample results was met for all target analytes with the exception of manganese (16%) in sample C161023-03. Manganese results for all solid samples were qualified as estimated (J).
- Internal Standards: All site sample ICPMS internal standard (IS) intensities were within 60-125% of the response in the calibration blank for reported target analytes.
- Sample Result Verification: Sample results were verified for all samples reviewed at validation Stage 4. Detects below the reporting limit were qualified as estimated (J). Nondetects are valid to the RL.

  All water samples were diluted 5x for total ICPMS analysis. All sediment samples were analyzed at various dilutions for Methods 200.7 and 200.8. Detected results for dilutions were flagged with "D" by the laboratory. Reporting limits were adjusted accordingly.

  It should be noted that mercury results were flagged with "D"; however, review of the raw data indicates that no samples were diluted for 7473 analysis.
- Field QC Samples: MEC^X evaluated field QC samples, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. MEC^X used the remaining detects to evaluate the associated site samples. Findings associated with field QC samples are summarized below.
  - Field Blanks and Equipment Blanks: No field blanks or equipment blank samples were identified for this SDG. Field blanks are associated by collection date and time, and by sampler.
  - Field Duplicates: There were no field duplicate samples identified for this SDG. Field duplicates are associated by collection date and time, and by sampler.

Validated Sample Result Forms C161023

Analysis Method DM-Hardness - Calculated

Lab Sample Name: C161023-02 **Sample No:** A8M5-2580 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness	NA	403	2	2	mg/L			

Lab Sample Name: C161023-05 **Sample No:** A8M5-2581 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness	NA	591	2	2	mg/L			

Lab Sample Name: C161023-08 **Sample No:** A8M5-2582 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Hardness	NA	306	2	2	mg/L			

Analysis Method ICPMS Diss. Metals

Lab Sample Name: C161023-02 **Sample No:** A8M5-2580 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	2.45	1.00	0.500	ug/L			
Arsenic	7440-38-2	2.10	2.00	0.500	ug/L			
Cadmium	7440-43-9	5.11	0.200	0.100	ug/L			
Chromium	7440-47-3	1.56	2.00	1.00	ug/L	J	J	
Copper	7440-50-8	1.80	1.00	0.500	ug/L			
Lead	7439-92-1	<0.200	0.200	0.100	ug/L	U	U	
Nickel	7440-02-0	1.92	1.00	0.500	ug/L			
Selenium	7782-49-2	1.12	2.00	1.00	ug/L	J	J	
Silver	7440-22-4	<1.00	1.00	0.500	ug/L	U	U	
Thallium	7440-28-0	<2.00	2.00	1.00	ug/L	U	U	
Uranium	7440-61-1	<0.200	0.200	0.100	ug/L	U	U	

Lab Sample Name: C161023-05 **Sample No:** A8M5-2581 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<1.00	1.00	0.500	ug/L	U	U	
Arsenic	7440-38-2	2.58	2.00	0.500	ug/L			
Cadmium	7440-43-9	50.1	0.200	0.100	ug/L			

Analysis Method ICPMS Diss. Metals

Chromium	7440-47-3	<2.00	2.00	1.00	ug/L	U	U
Copper	7440-50-8	16.5	1.00	0.500	ug/L		
Lead	7439-92-1	431	0.200	0.100	ug/L		
Nickel	7440-02-0	5.72	1.00	0.500	ug/L		
Selenium	7782-49-2	2.22	2.00	1.00	ug/L		
Silver	7440-22-4	<1.00	1.00	0.500	ug/L	U	U
Thallium	7440-28-0	<2.00	2.00	1.00	ug/L	U	U
Uranium	7440-61-1	0.178	0.200	0.100	ug/L	J	J

Lab Sample Name: C161023-08 **Sample No:** A8M5-2582 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<1.00	1.00	0.500	ug/L	U	U	
Arsenic	7440-38-2	1.63	2.00	0.500	ug/L	J	J	
Cadmium	7440-43-9	18.7	0.200	0.100	ug/L			
Chromium	7440-47-3	1.18	2.00	1.00	ug/L	J	J	
Copper	7440-50-8	300	1.00	0.500	ug/L			
Lead	7439-92-1	20.7	0.200	0.100	ug/L			
Nickel	7440-02-0	11.8	1.00	0.500	ug/L			
Selenium	7782-49-2	<2.00	2.00	1.00	ug/L	U	U	
Silver	7440-22-4	<1.00	1.00	0.500	ug/L	U	U	
Thallium	7440-28-0	<2.00	2.00	1.00	ug/L	U	U	
Uranium	7440-61-1	0.568	0.200	0.100	ug/L			

Analysis Method ICPMS Tot. Rec. Metals

Lab Sample Name: C161023-01 **Sample No:** A8M5-2580 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<5.00	5.00	2.50	ug/L	U	U	
Arsenic	7440-38-2	<10.0	10.0	2.50	ug/L	U	U	
Cadmium	7440-43-9	5.44	1.00	0.500	ug/L	D		
Chromium	7440-47-3	<10.0	10.0	5.00	ug/L	U	U	
Copper	7440-50-8	<5.00	5.00	2.50	ug/L	U	U	
Lead	7439-92-1	<1.00	1.00	0.500	ug/L	U	U	
Nickel	7440-02-0	<5.00	5.00	2.50	ug/L	U	U	
Selenium	7782-49-2	<10.0	10.0	5.00	ug/L	U	U	
Silver	7440-22-4	<5.00	5.00	2.50	ug/L	U	U	
Thallium	7440-28-0	<10.0	10.0	5.00	ug/L	U	U	
Uranium	7440-61-1	<1.00	1.00	0.500	ug/L	U	U	

Analysis Method ICPMS Tot. Rec. Metals

Lab Sample Name: C161023-03 **Sample No:** A8M5-2583 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<5050	5050	2520	ug/kg dry	U	UJ	Q
Arsenic	7440-38-2	61600	10100	2520	ug/kg dry	D	J-	Q
Cadmium	7440-43-9	28400	1010	505	ug/kg dry	D		
Chromium	7440-47-3	<10100	10100	5050	ug/kg dry	U	U	
Copper	7440-50-8	171000	5050	2520	ug/kg dry	D		
Lead	7439-92-1	271000	1010	505	ug/kg dry	D	J-	Q
Nickel	7440-02-0	11900	5050	2520	ug/kg dry	D		
Selenium	7782-49-2	<10100	10100	5050	ug/kg dry	U	UJ	Q
Silver	7440-22-4	<5050	5050	2520	ug/kg dry	U	U	
Thallium	7440-28-0	<10100	10100	5050	ug/kg dry	U	U	
Uranium	7440-61-1	2790	1010	505	ug/kg dry	D		

Lab Sample Name: C161023-04 **Sample No:** A8M5-2581 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<5.00	5.00	2.50	ug/L	U	U	
Arsenic	7440-38-2	2.94	10.0	2.50	ug/L	JD	J	
Cadmium	7440-43-9	49.0	1.00	0.500	ug/L	D		
Chromium	7440-47-3	<10.0	10.0	5.00	ug/L	U	U	
Copper	7440-50-8	18.7	5.00	2.50	ug/L	D		
Lead	7439-92-1	450	1.00	0.500	ug/L	D		
Nickel	7440-02-0	6.80	5.00	2.50	ug/L	D		
Selenium	7782-49-2	<10.0	10.0	5.00	ug/L	U	U	
Silver	7440-22-4	<5.00	5.00	2.50	ug/L	U	U	
Thallium	7440-28-0	7.74	10.0	5.00	ug/L	JD	J	
Uranium	7440-61-1	<1.00	1.00	0.500	ug/L	U	U	

Lab Sample Name: C161023-06 **Sample No:** A8M5-2584 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<19900	19900	9950	ug/kg dry	U	UJ	Q
Arsenic	7440-38-2	17800	39800	9950	ug/kg dry	JD	J-	Q
Cadmium	7440-43-9	<3980	3980	1990	ug/kg dry	U	U	
Chromium	7440-47-3	<39800	39800	19900	ug/kg dry	U	U	
Copper	7440-50-8	<19900	19900	9950	ug/kg dry	U	U	
Lead	7439-92-1	68400	3980	1990	ug/kg dry	D	J-	Q
Nickel	7440-02-0	<19900	19900	9950	ug/kg dry	U	U	
Selenium	7782-49-2	<39800	39800	19900	ug/kg dry	U	UJ	Q

Analysis Method ICPMS Tot. Rec. Metals

Silver		7440-22-4	<19900	19900	9950	ug/kg dry	U	U
Thallium		7440-28-0	<39800	39800	19900	ug/kg dry	U	U
Uranium		7440-61-1	<3980	3980	1990	ug/kg dry	U	U

Lab Sample Name: C161023-07 **Sample No:** A8M5-2582 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<5.00	5.00	2.50	ug/L	U	U	
Arsenic	7440-38-2	39.3	10.0	2.50	ug/L	D		
Cadmium	7440-43-9	19.1	1.00	0.500	ug/L	D		
Chromium	7440-47-3	<10.0	10.0	5.00	ug/L	U	U	
Copper	7440-50-8	348	5.00	2.50	ug/L	D		
Lead	7439-92-1	116	1.00	0.500	ug/L	D		
Nickel	7440-02-0	12.9	5.00	2.50	ug/L	D		
Selenium	7782-49-2	<10.0	10.0	5.00	ug/L	U	U	
Silver	7440-22-4	<5.00	5.00	2.50	ug/L	U	U	
Thallium	7440-28-0	<10.0	10.0	5.00	ug/L	U	U	
Uranium	7440-61-1	0.650	1.00	0.500	ug/L	JD	J	

Lab Sample Name: C161023-09 **Sample No:** A8M5-2585 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Antimony	7440-36-0	<5020	5020	2510	ug/kg dry	U	UJ	Q
Arsenic	7440-38-2	135000	10000	2510	ug/kg dry	D	J-	Q
Cadmium	7440-43-9	886	1000	502	ug/kg dry	JD	J	
Chromium	7440-47-3	<10000	10000	5020	ug/kg dry	U	U	
Copper	7440-50-8	72400	5020	2510	ug/kg dry	D		
Lead	7439-92-1	1460000	1000	502	ug/kg dry	D	J-	Q
Nickel	7440-02-0	<5020	5020	2510	ug/kg dry	U	U	
Selenium	7782-49-2	<10000	10000	5020	ug/kg dry	U	UJ	Q
Silver	7440-22-4	11100	5020	2510	ug/kg dry	D		
Thallium	7440-28-0	<10000	10000	5020	ug/kg dry	U	U	
Uranium	7440-61-1	<1000	1000	502	ug/kg dry	U	U	

Analysis Method ICPOE Diss. Metals

Lab Sample Name: C161023-02 **Sample No:** A8M5-2580 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	341	50.0	20.0	ug/L			
Beryllium	7440-41-7	<5.00	5.00	2.00	ug/L	U	U	
Calcium	7440-70-2	146000	250	100	ug/L			

Analysis Method ICPOE Diss. Metals

Iron	7439-89-6	2250	250	100	ug/L			
Magnesium	7439-95-4	9410	250	100	ug/L			
Manganese	7439-96-5	13600	5.00	2.00	ug/L			
Silica (SiO2)	763-18-69	9940	1000	250	ug/L			
Strontium	7440-24-6	823	10.0	2.00	ug/L			
Zinc	7440-66-6	5050	20.0	10.0	ug/L			

Lab Sample Name: C161023-05 **Sample No:** A8M5-2581 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	4040	50.0	20.0	ug/L			
Beryllium	7440-41-7	4.61	5.00	2.00	ug/L	J	J	
Calcium	7440-70-2	215000	250	100	ug/L			
Iron	7439-89-6	26000	250	100	ug/L			
Magnesium	7439-95-4	13100	250	100	ug/L			
Manganese	7439-96-5	25100	5.00	2.00	ug/L			
Silica (SiO2)	763-18-69	32000	1000	250	ug/L			
Strontium	7440-24-6	1860	10.0	2.00	ug/L			
Zinc	7440-66-6	32200	20.0	10.0	ug/L			

Lab Sample Name: C161023-08 **Sample No:** A8M5-2582 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	2920	50.0	20.0	ug/L			
Beryllium	7440-41-7	<5.00	5.00	2.00	ug/L	U	U	
Calcium	7440-70-2	93700	250	100	ug/L			
Iron	7439-89-6	16300	250	100	ug/L			
Magnesium	7439-95-4	17500	250	100	ug/L			
Manganese	7439-96-5	6430	5.00	2.00	ug/L			
Silica (SiO2)	763-18-69	13200	1000	250	ug/L			
Strontium	7440-24-6	2410	10.0	2.00	ug/L			
Zinc	7440-66-6	6060	20.0	10.0	ug/L			

Analysis Method ICPOE Tot. Rec. Metals

Lab Sample Name: C161023-01 **Sample No:** A8M5-2580 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	362	50.0	20.0	ug/L			
Beryllium	7440-41-7	<5.00	5.00	2.00	ug/L	U	U	
Calcium	7440-70-2	147000	250	100	ug/L			
Iron	7439-89-6	2420	250	100	ug/L			

Analysis Method ICPOE Tot. Rec. Metals

Magnesium	7439-95-4	9410	250	100	ug/L				
Manganese	7439-96-5	13700	5.00	2.00	ug/L				
Silica (SiO2)	763-18-69	10000	1000	250	ug/L				
Strontium	7440-24-6	835	10.0	2.00	ug/L				
Zinc	7440-66-6	4990	20.0	10.0	ug/L				

Lab Sample Name: C161023-03 **Sample No:** A8M5-2583 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	23700	50.5	20.2	mg/kg dr	D		
Beryllium	7440-41-7	47.7	5.05	1.01	mg/kg dr	D		
Calcium	7440-70-2	4420	252	101	mg/kg dr	D		
Iron	7439-89-6	209000	252	101	mg/kg dr	D	J-	L
Magnesium	7439-95-4	328	252	101	mg/kg dr	D		
Manganese	7439-96-5	45600	5.05	2.02	mg/kg dr	JD	J	A
Silica (SiO2)	763-18-69	22300	1010	252	mg/kg dr	D		
Strontium	7440-24-6	46.1	10.1	2.02	mg/kg dr	D		
Zinc	7440-66-6	12500	20.2	10.1	mg/kg dr	D		

Lab Sample Name: C161023-04 **Sample No:** A8M5-2581 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	4050	50.0	20.0	ug/L			
Beryllium	7440-41-7	4.55	5.00	2.00	ug/L	J	J	
Calcium	7440-70-2	213000	250	100	ug/L			
Iron	7439-89-6	26800	250	100	ug/L			
Magnesium	7439-95-4	13000	250	100	ug/L			
Manganese	7439-96-5	25300	5.00	2.00	ug/L			
Silica (SiO2)	763-18-69	31600	1000	250	ug/L			
Strontium	7440-24-6	1890	10.0	2.00	ug/L			
Zinc	7440-66-6	31500	20.0	10.0	ug/L			

Lab Sample Name: C161023-06 **Sample No:** A8M5-2584 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	235	49.8	19.9	mg/kg dr	D		
Beryllium	7440-41-7	<4.98	4.98	0.995	mg/kg dr	U	U	
Calcium	7440-70-2	549	249	99.5	mg/kg dr	D		
Iron	7439-89-6	396000	249	99.5	mg/kg dr	D	J-	L
Magnesium	7439-95-4	<249	249	99.5	mg/kg dr	U	U	
Manganese	7439-96-5	135	4.98	1.99	mg/kg dr	D	J	A
Silica (SiO2)	763-18-69	2650	995	249	mg/kg dr	D		

Analysis Method ICPOE Tot. Rec. Metals

Strontium	7440-24-6	<9.95	9.95	1.99	mg/kg dr	U	U	
Zinc	7440-66-6	144	19.9	9.95	mg/kg dr	D		

Lab Sample Name: C161023-07 **Sample No:** A8M5-2582 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Water

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	3620	50.0	20.0	ug/L			
Beryllium	7440-41-7	<5.00	5.00	2.00	ug/L	U	U	
Calcium	7440-70-2	94700	250	100	ug/L			
Iron	7439-89-6	58800	250	100	ug/L			
Magnesium	7439-95-4	17700	250	100	ug/L			
Manganese	7439-96-5	6440	5.00	2.00	ug/L			
Silica (SiO2)	763-18-69	14200	1000	250	ug/L			
Strontium	7440-24-6	2440	10.0	2.00	ug/L			
Zinc	7440-66-6	5780	20.0	10.0	ug/L			

Lab Sample Name: C161023-09 **Sample No:** A8M5-2585 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Solid (dry wt basis)

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Aluminum	7429-90-5	3500	50.2	20.1	mg/kg dr	D		
Beryllium	7440-41-7	<5.02	5.02	1.00	mg/kg dr	U	U	
Calcium	7440-70-2	1130	251	100	mg/kg dr	D		
Iron	7439-89-6	158000	251	100	mg/kg dr	D	J-	L
Magnesium	7439-95-4	1200	251	100	mg/kg dr	D		
Manganese	7439-96-5	511	5.02	2.01	mg/kg dr	D	J	A
Silica (SiO2)	763-18-69	5050	1000	251	mg/kg dr	D		
Strontium	7440-24-6	27.7	10.0	2.01	mg/kg dr	D		
Zinc	7440-66-6	287	20.1	10.0	mg/kg dr	D		

Analysis Method TM_Mercury 7473

Lab Sample Name: C161023-03 **Sample No:** A8M5-2583 **Sample Date:** 9/28/2016 9:57:00 AM

Location A12 **Matrix Type:** Soil

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	0.106	0.047	0.024	mg/kg dr	D	J-	H

Lab Sample Name: C161023-06 **Sample No:** A8M5-2584 **Sample Date:** 9/27/2016 11:00:00 AM

Location CC02D **Matrix Type:** Soil

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	<0.033	0.033	0.016	mg/kg dr	U	UJ	H

Analysis Method TM_Mercury 7473

Lab Sample Name: C161023-09 **Sample No:** A8M5-2585 **Sample Date:** 9/29/2016 8:51:00 AM

Location M12C **Matrix Type:** Soil

Analyte	CAS No	Result Value	Sample Adjusted CRQL	Sample Adjusted MDL	Result Units	Lab Qualifier	Validation Qualifier	Validation Notes
Mercury	7439-97-6	0.089	0.020	0.010	mg/kg dr	D	J-	H